UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,342	02/09/2004	Shin-Jae Lee	P56933	6497

7590 11/27/2006

Robert E. Bushnell
Suite 300
1522 K Street, N.W.
Washington, DC 20005-1202

EXAMINER	
SCHNURR, JOHN R	

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/773,342	LEE, SHIN-JAE	
	Examiner	Art Unit	
	John R. Schnurr	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02/09/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/09/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in Response to Application No. 10/773,342 filed 02/09/2004.

Claims 1-12 are pending and have been examined.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims **1 through 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Noguchi et al. (US Patent Application Publication 2005/0193337)** in view of **MPEG-2 Digital Broadcast Pocket Guide**.

Consider **claim 1**, Noguchi et al. clearly teaches;

> An apparatus for controlling a program information display on an electronic program guide (EPG) screen **(FIG. 3 is a block diagram representation of the elements utilized in the receiver of the television signals. [0014])**, comprising:

a demultiplexer **(Fig. 3 transport IC 24)** demultiplexing a received transport stream **(The transport IC 24 receives the data stream, consisting of packets of data, from the error correcting circuit 23 and directs portions of the data stream to the appropriate circuit for processing. [0043])**,

a program information length detector detecting length of the program information **(Operation begins at Block 1602, at which the broadcast system determines a number of characters to be displayed. [0071])**

a display controller **(Fig. 3 CPU 29)** processing the program information to be displayed on an electronic program guide (EPG) by corresponding to the length of the program information detected from the program information length detector, and transmitting the program information to a video display device. **(Operation begins at Block 1602, at which the broadcast system determines a number of characters to be displayed. Operation continues at Block 1604, at which the broadcast system determines the number of display pixels available for character display. Operation continues at Block 1606, at which the broadcast system adjusts the character font size in order to display all characters in the available number of display pixels. Operation continues at Block 1608, at which the broadcasting system displays the characters in the display information packet. [0071])**

Noguchi et al. disclose an apparatus for controlling the display of EPG data. An MPEG-2 transport stream is demultiplexed and EPG data is parsed to obtain the length of the requested program data. The EPG data consists of channel and program data. Defined as;

Channel data:

The channel data includes data relating to channels, such as the channel number, channel name (i.e., the call sign of a broadcast station), logo ID (i.e., an identification of the channel logo), data ID, which is an identification of a channel number of MPEG video data or MPEG audio data, number of programs, which identifies the number of programs to be transmitted on a channel during a predetermined time frame, and first program offset which identifies the offset from the header to the first channel data in a segment. [0050]

Program data:

> **The program data includes the program title, start time of the program, time length of the program, program category such as movies, news, sports, etc., program subcategory such as drama, horror, children's movies or baseball, basketball, football for the sports category, the movie rating and program description that provides a detailed description of the program. [0051]**

However, Noguchi et al. does not explicitly teach the use of an extended system layer including the SDT and EIT;

> extracting service description table (SDT) information and event information table (EIT) information from the demultiplexed data
>
> from the service description table (SDT) information and the event information table (EIT) information extracted from the demultiplexer

In the same field of endeavor MPEG-2 Digital Broadcast Pocket Guide, which discloses the basics of MPEG-2, clearly teaches the need for using extended system layer standards in a network of transport streams.

> **While MPEG-2 PSI tables enable the decoder to decipher the programs on a single transport stream, they do not provide enough information to support the numerous programs and services available on an entire network of transport streams. (pg. 18)**

MPEG-2 Digital Broadcast Pocket Guide discloses two standards to extend the system layer of MPEG-2 systems, DVB and ATSC.

> **The Digital Video Broadcast (DVB) standard defines a set of tables, called Service Information (SI) tables, that extend the capabilities of the MPEG-2 system layer such that a decoder can receive and decode any number of programs and services across a network of transport streams. (pg. 18)**
>
> **Like the DVB specification, the Advanced Television Systems Committee (ATSC) standard expands the MPEG-2 system layer to support the simultaneous transmission of multiple transport streams in a broadband network. (pg. 22)**

Noguchi et al. disclose a satellite broadcast system, therefore, the DVB standard must be used in Noguchi et al., as the ATSC is not used in broadcast satellite systems.

Table 3 of the MPEG-2 Digital Broadcast Pocket Guide discloses the System Information (SI) Tables of the DVB standard. These tables include the SDT and EIT, which are defined as;

SDT:

> **The Service Description Table (SDT) defines the services available on the network and gives the name of the service provider. A service is a sequence of events that can be broadcast as part of a schedule. (pg. 22)**

EIT:

> **The Event Information Table (EIT) defines all events in the network, including their description, start time and duration. According to MPEG, an event is a collection of elementary streams with a common time base set to start and end at the same time. We often refer to events as "TV programs." (pg. 22)**

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to use the SDT and EIT of the MPEG-2 Digital Broadcast Pocket Guide as the channel and program data of Noguchi et al. The only SI tables contained in the DVB standard that match the description of the channel and program data of Noguchi et al. are the SDT (channel data) and EIT (program data). Using the DVB standard provides support for the numerous programs and services available on an entire network of transport streams.

Consider **claim 2**, Noguchi et al. combined with the MPEG-2 Digital Broadcast Pocket Guide, as in claim 1, clearly teaches;

> The apparatus of claim 1 **(FIG. 3 is a block diagram representation of the elements utilized in the receiver of the television signals. [0014] Noguchi et al.)**, wherein the program information length detector searches a service ID of a current transport stream by using PID (0x11) **(SDT uses PID 0x0011, MPEG-2 Digital Broadcast Pocket Guide Table 3)** and SDT Actual table ID (0x42) of the inputted service description table (SDT) information, analyzes a service_descriptor in a selected service with the searched service ID **(Two types of SDTs, "Actual" and "Other," are required by DVB. The SDT Actual describes the services available on the transport stream currently being accessed by the viewer, MPEG-2 Digital Broadcast Pocket Guide pg. 20)**, and extracts length of a service name **(Operation begins at Block 1602, at which the broadcast system determines a number of characters to be displayed. [0071] Noguchi et al.)**.

Consider **claim 3**, Noguchi et al. combined with the MPEG-2 Digital Broadcast Pocket Guide, as in claim 1, clearly teaches;

The apparatus of claim 1 **(FIG. 3 is a block diagram representation of the elements utilized in the receiver of the television signals. [0014] Noguchi et al.)**, wherein the program information length detector comprises:

a service description table (SDT) input unit **(data buffer 51, Noguchi et al.)** inputting the service description table (SDT) information transmitted from the demultiplexer; **(data having a header that identifies the data to be EPG data is transferred to a predetermined area in the data buffer 51 designated to store the EPG. [0043] Noguchi et al.)**

a service ID searcher searching a service ID of a current transport stream by using the PID (0x11) **(SDT uses PID 0x0011, MPEG-2 Digital Broadcast Pocket Guide Table 3)** and SDT Actual table ID (0x42) of the service description table (SDT) information inputted through the service description table (SDT) input unit; **(Two types of SDTs, "Actual" and "Other," are required by DVB. The SDT Actual describes the services available on the transport stream currently being accessed by the viewer, MPEG-2 Digital Broadcast Pocket Guide pg. 20)**,

a table parsing unit parsing a table of a selected service with the service ID searched in the service ID searcher, and extracting a service descriptor; **(CPU 29, accessing pointers stored in the SRAM 36, communicates to the transport IC 34 to retrieve the data from the data buffer (SRAM) 51 identified by the pointers. [0048] Noguchi et al.)** and

a service name length extractor analyzing the service descriptor extracted from the table parsing unit, and extracting length of the service name. **(Operation begins at Block 1602, at which the broadcast system determines a number of characters to be displayed. [0071] Noguchi et al.)**

Consider **claim 4**, Noguchi et al. combined with the MPEG-2 Digital Broadcast Pocket Guide, as in claim 1, clearly teaches;

The apparatus of claim 1 **(FIG. 3 is a block diagram representation of the elements utilized in the receiver of the television signals. [0014] Noguchi et al.)**, wherein the program information length detector extracts short_event_descriptor (0x4D) of a corresponding event with PID (0x12)

(EIT uses PID 0x0012, MPEG-2 Digital Broadcast Pocket Guide Table 3) and Table ID (0x4E, 0x50.about.0x5F) of EIT present and following actual or EIT schedule actual of the inputted EIT information **(Three different types of EITs can be transmitted simultaneously: the EIT Present, the EIT Following and the EIT Schedule. The EIT Present describes the events currently being broadcast on the transport stream being accessed by the viewer, while the EIT Following provides information about the next events to be broadcast on the same transport stream. The EIT Schedule lists all events available on the network for anywhere from the next few hours to the next few days, depending on the service provider's implementation. The EIT Schedule provides the main source of information for the Electronic Program Guide (EPG). MPEG-2 Digital Broadcast Pocket Guide pg. 20),** and extracting length of an event name by analyzing the extracted short_event_descriptor. **(Operation begins at Block 1602, at which the broadcast system determines a number of characters to be displayed. [0071] Noguchi et al.)**

Consider **claim 5**, Noguchi et al. combined with the MPEG-2 Digital Broadcast Pocket Guide, as in claim 1, clearly teaches;

The apparatus of claim 1 **(FIG. 3 is a block diagram representation of the elements utilized in the receiver of the television signals. [0014] Noguchi et al.)**, wherein the program information length detector comprises:

an EIT input unit **(data buffer 51, Noguchi et al.)** inputting the event information table (EIT) information transmitted from the demultiplexer; **(data having a header that identifies the data to be EPG data is transferred to a predetermined area in the data buffer 51 designated to store the EPG. [0043] Noguchi et al.)**

a service ID searcher searching an event ID in the event information table (EIT) information inputted through the EIT input unit; **(As noted above, the CPU generates a table of pointers 736 to the EPG stored in the memory. The table 736 is used for changing the order of channels or programs according to the information to be presented in the guide to the user. The table 736 includes an entry for the address pointer to the corresponding channel data and an entry to the corresponding program data. [0053] Noguchi et al.)**

a table parsing unit parsing event information table (EIT) like the PID (0x12) **(EIT uses PID 0x0012, MPEG-2 Digital Broadcast Pocket Guide Table 3)** and the Table ID (0x4E, 0x50.about.0x5F) of EIT present and

following actual or EIT schedule actual with the event ID searched in the service ID searcher information **(Three different types of EITs can be transmitted simultaneously: the EIT Present, the EIT Following and the EIT Schedule. The EIT Present describes the events currently being broadcast on the transport stream being accessed by the viewer, while the EIT Following provides information about the next events to be broadcast on the same transport stream. The EIT Schedule lists all events available on the network for anywhere from the next few hours to the next few days, depending on the service provider's implementation. The EIT Schedule provides the main source of information for the Electronic Program Guide (EPG). MPEG-2 Digital Broadcast Pocket Guide pg. 20)**, and extracting the short_event_descriptor (0x4D) of the corresponding event; **(CPU 29, accessing pointers stored in the SRAM 36, communicates to the transport IC 34 to retrieve the data from the data buffer (SRAM) 51 identified by the pointers. [0048] Noguchi et al.)** and

an event name length extractor analyzing the short_event_descriptor (0x4D) extracted from the table parsing unit, and extracting length of an event name. **(Operation begins at Block 1602, at which the broadcast system determines a number of characters to be displayed. [0071] Noguchi et al.)**

4. Claims **6 through 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Noguchi et al. (US Patent Application Publication 2005/0193337)** in view of **MPEG-2 Digital Broadcast Pocket Guide** as applied to claim 1 above, and further in view of **Tsunoda (US Patent 4,660,032)**.

Consider **claim 6**, Noguchi et al. clearly teaches;

A method for controlling a program information display on an electronic program guide screen **(FIG. 3 is a block diagram representation of the elements utilized in the receiver of the television signals. [0014])**, the method comprising:

a first step of demultiplexing a received transport stream **(The transport IC 24 receives the data stream, consisting of packets of data, from the error correcting circuit 23 and directs portions of the data stream to the appropriate circuit for processing. [0043])**, extracting information from the demultiplexed data **(data having a header that identifies the**

data to be EPG data is transferred to a predetermined area in the data buffer 51 designated to store the EPG. [0043]), and detecting length of program information from the extracted; **(Operation begins at Block 1602, at which the broadcast system determines a number of characters to be displayed. [0071])**

a second step of confirming whether it is possible to display the length of the detected program information in a restricted region, when the program information is requested to be displayed within a table cell; **(Operation continues at Block 1604, at which the broadcast system determines the number of display pixels available for character display. [0071])**

Noguchi et al. disclose an apparatus for controlling the display of EPG data. An MPEG-2 transport stream is demultiplexed and EPG data is parsed to obtain the length of the requested program data. The EPG data consists of channel and program data. Defined as;

Channel data:

The channel data includes data relating to channels, such as the channel number, channel name (i.e., the call sign of a broadcast station), logo ID (i.e., an identification of the channel logo), data ID, which is an identification of a channel number of MPEG video data or MPEG audio data, number of programs, which identifies the number of programs to be transmitted on a channel during a predetermined time frame, and first program offset which identifies the offset from the header to the first channel data in a segment. [0050]

Program data:

The program data includes the program title, start time of the program, time length of the program, program category such as movies, news, sports, etc., program subcategory such as drama, horror, children's movies or baseball, basketball, football for the sports category, the movie rating and program description that provides a detailed description of the program. [0051]

However, Noguchi et al. does not explicitly teach the use of an extended system layer including the SDT and EIT;

extracting service description table (SDT) information and event information table (EIT) information from the demultiplexed data

from the service description table (SDT) information and the event information table (EIT) information extracted from the demultiplexer

In the same field of endeavor MPEG-2 Digital Broadcast Pocket Guide, which discloses the basics of MPEG-2, clearly teaches the need for using extended system layer standards in a network of transport streams.

> **While MPEG-2 PSI tables enable the decoder to decipher the programs on a single transport stream, they do not provide enough information to support the numerous programs and services available on an entire network of transport streams. (pg. 18)**

MPEG-2 Digital Broadcast Pocket Guide discloses two standards to extend the system layer of MPEG-2 systems, DVB and ATSC.

> **The Digital Video Broadcast (DVB) standard defines a set of tables, called Service Information (SI) tables, that extend the capabilities of the MPEG-2 system layer such that a decoder can receive and decode any number of programs and services across a network of transport streams. (pg. 18)**
>
> **Like the DVB specification, the Advanced Television Systems Committee (ATSC) standard expands the MPEG-2 system layer to support the simultaneous transmission of multiple transport streams in a broadband network. (pg. 22)**

Noguchi et al. disclose a satellite broadcast system, therefore, the DVB standard must be used in Noguchi et al., as the ATSC is not used in broadcast satellite systems.

Table 3 of the MPEG-2 Digital Broadcast Pocket Guide discloses the System Information (SI) Tables of the DVB standard. These tables include the SDT and EIT, which are defined as;

SDT:

> **The Service Description Table (SDT) defines the services available on the network and gives the name of the service provider. A service is a sequence of events that can be broadcast as part of a schedule. (pg. 22)**

EIT:

> **The Event Information Table (EIT) defines all events in the network, including their description, start time and duration. According to MPEG, an event is a collection of elementary streams with a common**

> **time base set to start and end at the same time. We often refer to events as "TV programs." (pg. 22)**

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to use the SDT and EIT of the MPEG-2 Digital Broadcast Pocket Guide as the channel and program data of Noguchi et al. The only SI tables contained in the DVB standard that match the description of the channel and program data of Noguchi et al. are the SDT (channel data) and EIT (program data). Using the DVB standard provides support for the numerous programs and services available on an entire network of transport streams.

Noguchi et al. combined with the MPEG-2 Digital Broadcast Pocket Guide does not explicitly teach;

> a third step of dividing the program information into displayable length units, if the length of the detected program information cannot be displayed in the restricted region after confirming, and displaying the divided program information

In the same field of endeavor Tsunoda, which discloses a system for scrolling information in a limited display area, clearly teaches;

> a third step of dividing the program information into displayable length units **(According to a second embodiment of the invention, the message is scrolled automatically on a per wordgroup basis. Column 4 Lines 45-47 Tsunoda)**, if the length of the detected program information cannot be displayed in the restricted region after confirming, and displaying the divided program information. **(Steps 43 and 44 are successively executed to display the first eight characters "PLEASE T". At Step 45, a "1-second" delay time flag is set up in a memory location d.sub.2. Clock is counted in Step 46 to check if 1 second has lapsed. A Step 47 is executed to check if a blank is present in the MSD position of the memory location d.sub.1. A Step 48 is then executed if no blank is detected in Step 47 to decrement the MSD variable by one. The microprocessor goes to a Step 50 to detect the asterisk and if not, returns to the Step 47 to successively decrement the MSD variable until the blank in the MSD-6 position is detected at Step 47. If a blank is detected in Step 47 the microprocessor exits to a Step 49 to further decrement the MSD variable by one so that the current status of the MSD variable is MSD-7. The microprocessor returns to the Step 43 to reset the display panel 5 and read out the next eight characters " TELEPHON". Column 4 Lines 52-68 Tsunoda)**

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to use the scrolling data display of Tsunoda after determining the number of characters to be displayed in the EPG controller system of Noguchi et al. By scrolling the display on a per word group basis as defined in Tsunoda the text becomes easier to read than the shrunken text of Noguchi et al. or per letter scrolling. **(The current practice is to display a portion of the received message at a time and then scroll it on a per character basis from one end of the array toward the other. However, this type of scrolling demands rapid eye movements and renders the message less intelligible since written information is usually perceived on a per word or word-group basis. Column 1 Lines 23-29 Tsunoda)**

Consider **claim 7**, Noguchi et al. and MPEG-2 Digital Broadcast Pocket Guide combined with Tsunoda, as in claim 6, clearly teaches;

> The method of claim 6 **(FIG. 3 is a block diagram representation of the elements utilized in the receiver of the television signals. [0014] Noguchi et al.)**, wherein the third step comprises the sub-steps of:
>
> dividing the program information into the displayable length units, if the length of the detected program information cannot be displayed in the restricted region; **(Fig. 7 Step 43 Read 8 Characters from MSD is equivalent to Fig. 4 Step 33 Read 8 Characters from MSD, Step 33 by reading eight 7-bit codes "PLEASE T" from the MSD to MSD-7 digit positions of memory location d.sub.1 Column 4 Lines 7-9 Tsunoda)**
>
> displaying program information stored in a first display unit buffer of the program information; **(Steps 43 and 44 are successively executed to display the first eight characters "PLEASE T". Column 4 Lines 51-53 Tsunoda)**
>
> checking whether displaying of a final unit of the divided program information is completed **(Fig. 7 Step 47 MSD = Asterisk? Tsunoda)**, and displaying program information stored in a next display unit buffer, if not completed after a checked result; **(The microprocessor returns to the Step 43 to reset the display panel 5 and read out the next eight characters "TELEPHON". Column 4 Lines 66-68)** and
>
> completing the program information display after displaying the divided program information to the end after the checked result. **(When the asterisk is detected in Step 50, an 8-second delay is introduced by Steps 51 and 52 before the microprocessor clears the display panel 5 at Step 53. Column 5 Lines 1-3 Tsunoda)**

Consider **claim 8**, Noguchi et al. and MPEG-2 Digital Broadcast Pocket Guide combined with Tsunoda, as in claim 6, clearly teaches;

> The method of claim 6 **(FIG. 3 is a block diagram representation of the elements utilized in the receiver of the television signals. [0014] Noguchi et al.)**, wherein in the second step **(Operation continues at Block 1604, at which the broadcast system determines the number of display pixels available for character display. [0071] Noguchi et al.)**, a fourth step of displaying all the detected program information in the restricted region, if the length of the detected program information can be displayed on the region, is further comprised. **(In this embodiment, the display panel 5 comprises an eight-segment liquid crystal display. Column 3 Lines 60-61, If the message is less than 8 characters the entire message will be displayed. Tsunoda)**

Consider **claim 9**, Noguchi et al. clearly teaches;

> A method for controlling a program information display on an electronic program guide screen **(FIG. 3 is a block diagram representation of the elements utilized in the receiver of the television signals. [0014] Noguchi et al.)**, the method comprising:
>
> a first step of demultiplexing a received transport stream **(The transport IC 24 receives the data stream, consisting of packets of data, from the error correcting circuit 23 and directs portions of the data stream to the appropriate circuit for processing. [0043] Noguchi et al.)**, extracting information from the demultiplexed data **(data having a header that identifies the data to be EPG data is transferred to a predetermined area in the data buffer 51 designated to store the EPG. [0043] Noguchi et al.)**, and detecting length of program information; **(Operation begins at Block 1602, at which the broadcast system determines a number of characters to be displayed. [0071] Noguchi et al.)**
>
> a second step of confirming whether it is possible to display the length of the detected program information in a restricted region, when the program information is requested to be displayed within a table cell; **(Block 1604, at which the broadcast system determines the number of display pixels available for character display. [0071] Noguchi et al.)** and

Noguchi et al. disclose an apparatus for controlling the display of EPG data. An MPEG-2 transport stream is demultiplexed and EPG data is parsed to obtain the

length of the requested program data. The EPG data consists of channel and program data. Defined as;

Channel data:

> **The channel data includes data relating to channels, such as the channel number, channel name (i.e., the call sign of a broadcast station), logo ID (i.e., an identification of the channel logo), data ID, which is an identification of a channel number of MPEG video data or MPEG audio data, number of programs, which identifies the number of programs to be transmitted on a channel during a predetermined time frame, and first program offset which identifies the offset from the header to the first channel data in a segment. [0050]**

Program data:

> **The program data includes the program title, start time of the program, time length of the program, program category such as movies, news, sports, etc., program subcategory such as drama, horror, children's movies or baseball, basketball, football for the sports category, the movie rating and program description that provides a detailed description of the program. [0051]**

However, Noguchi et al. does not explicitly teach the use of an extended system layer including the SDT and EIT;

> extracting service description table (SDT) information and event information table (EIT) information from the demultiplexed data
>
> from the service description table (SDT) information and the event information table (EIT) information extracted from the demultiplexer

In the same field of endeavor MPEG-2 Digital Broadcast Pocket Guide, which discloses the basics of MPEG-2, clearly teaches the need for using extended system layer standards in a network of transport streams.

> **While MPEG-2 PSI tables enable the decoder to decipher the programs on a single transport stream, they do not provide enough information to support the numerous programs and services available on an entire network of transport streams. (pg. 18)**

MPEG-2 Digital Broadcast Pocket Guide discloses two standards to extend the system layer of MPEG-2 systems, DVB and ATSC.

> **The Digital Video Broadcast (DVB) standard defines a set of tables, called Service Information (SI) tables, that extend the capabilities of the MPEG-2 system layer such that a decoder can receive and decode any number of programs and services across a network of transport streams. (pg. 18)**
>
> **Like the DVB specification, the Advanced Television Systems Committee (ATSC) standard expands the MPEG-2 system layer to support the simultaneous transmission of multiple transport streams in a broadband network. (pg. 22)**

Noguchi et al. disclose a satellite broadcast system, therefore, the DVB standard must be used in Noguchi et al., as the ATSC is not used in broadcast satellite systems.

Table 3 of the MPEG-2 Digital Broadcast Pocket Guide discloses the System Information (SI) Tables of the DVB standard. These tables include the SDT and EIT, which are defined as;

SDT:

> **The Service Description Table (SDT) defines the services available on the network and gives the name of the service provider. A service is a sequence of events that can be broadcast as part of a schedule. (pg. 22)**

EIT:

> **The Event Information Table (EIT) defines all events in the network, including their description, start time and duration. According to MPEG, an event is a collection of elementary streams with a common time base set to start and end at the same time. We often refer to events as "TV programs." (pg. 22)**

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to use the SDT and EIT of the MPEG-2 Digital Broadcast Pocket Guide as the channel and program data of Noguchi et al. The only SI tables contained in the DVB standard that match the description of the channel and program data of Noguchi et al. are the SDT (channel data) and EIT (program data). Using the DVB standard provides support for the numerous programs and services available on an entire network of transport streams.

Noguchi et al. combined with the MPEG-2 Digital Broadcast Pocket Guide does not explicitly teach;

a third step of creating a display range window of displayable length, if the length of the detected program information cannot be displayed in the restricted region after a confirmed result in the second step; and

a fourth step of displaying the program information as moving the display range window created in the third step.

In the same field of endeavor Tsunoda, which discloses a system for scrolling information in a limited display area, clearly teaches;

a third step of creating a display range window of displayable length **(According to a second embodiment of the invention, the message is scrolled automatically on a per wordgroup basis. Column 4 Lines 45-47 Tsunoda)**, if the length of the detected program information cannot be displayed in the restricted region after a confirmed result in the second step; **(Steps 43 and 44 are successively executed to display the first eight characters "PLEASE T". At Step 45, a "1-second" delay time flag is set up in a memory location d.sub.2. Clock is counted in Step 46 to check if 1 second has lapsed. A Step 47 is executed to check if a blank is present in the MSD position of the memory location d.sub.1. A Step 48 is then executed if no blank is detected in Step 47 to decrement the MSD variable by one. The microprocessor goes to a Step 50 to detect the asterisk and if not, returns to the Step 47 to successively decrement the MSD variable until the blank in the MSD-6 position is detected at Step 47. If a blank is detected in Step 47 the microprocessor exits to a Step 49 to further decrement the MSD variable by one so that the current status of the MSD variable is MSD-7. The microprocessor returns to the Step 43 to reset the display panel 5 and read out the next eight characters "TELEPHON". Column 4 Lines 52-68 Tsunoda)** and

a fourth step of displaying the program information as moving the display range window created in the third step. **(According to a second embodiment of the invention, the message is scrolled automatically on a per wordgroup basis. Column 4 Lines 45-47 Tsunoda)**

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to use the scrolling data display of Tsunoda after determining the number of characters to be displayed in the EPG controller system of Noguchi et al. By scrolling the display on a per word group basis as defined in Tsunoda the text becomes easier to read than the shrunken text of Noguchi et al. or per letter scrolling. **(The current practice is to display a portion of the received message at a time and then scroll it on a per character basis from one end of the array toward the other. However, this**

type of scrolling demands rapid eye movements and renders the message less intelligible since written information is usually perceived on a per word or word-group basis. Column 1 Lines 23-29 Tsunoda)

Consider **claim 10**, Noguchi et al. and MPEG-2 Digital Broadcast Pocket Guide combined with Tsunoda, as in claim 9, clearly teaches;

> The method of claim 9 **(FIG. 3 is a block diagram representation of the elements utilized in the receiver of the television signals. [0014] Noguchi et al.)**, wherein the fourth step comprises the sub-steps of:
>
> displaying a part to be shown with the display range window from a first position of the table cell; **(Steps 43 and 44 are successively executed to display the first eight characters "PLEASE T". Column 4 Lines 51-53 Tsunoda)**
>
> checking whether the display range window displays all the program information to the end **(The microprocessor goes to a Step 50 to detect the asterisk Column 4 Lines 59-60 Tsunoda)**, and completing a display operation if all the program information is displayed **(When the asterisk is detected in Step 50, an 8-second delay is introduced by Steps 51 and 52 before the microprocessor clears the display panel 5 at Step 53. Column 5 Lines 1-3 Tsunoda)**; and
>
> displaying the program information by moving a program information display window at regular intervals, if program information to be displayed still remains after a checked result. **(The microprocessor goes to a Step 50 to detect the asterisk and if not, returns to the Step 47 to successively decrement the MSD variable until the blank in the MSD-6 position is detected at Step 47. If a blank is detected in Step 47 the microprocessor exits to a Step 49 to further decrement the MSD variable by one so that the current status of the MSD variable is MSD-7. The microprocessor returns to the Step 43 to reset the display panel 5 and read out the next eight characters "TELEPHON". Column 4 Lines 59-69 Tsunoda)**

Consider **claim 11**, Noguchi et al. and MPEG-2 Digital Broadcast Pocket Guide combined with Tsunoda, as in claim 9, clearly teaches;

> The method of claim 9 **(FIG. 3 is a block diagram representation of the elements utilized in the receiver of the television signals. [0014] Noguchi et al.)**, wherein the display range window displays the program information as much as corresponding size of the table cell from the start of event or service information. **(Steps 43 and 44 are successively**

executed to display the first eight characters "PLEASE T". Column 4 Lines 51-53 Tsunoda)

Consider **claim 12**, Noguchi et al. and MPEG-2 Digital Broadcast Pocket Guide combined with Tsunoda, as in claim 9, clearly teaches;

The method of claim 9 **(FIG. 3 is a block diagram representation of the elements utilized in the receiver of the television signals. [0014] Noguchi et al.)**, wherein the second step **(Block 1604, at which the broadcast system determines the number of display pixels available for character display. [0071] Noguchi et al.)** comprises displaying all the detected program information in the restricted region, if the length of the detected program information can be displayed on the region. **(In this embodiment, the display panel 5 comprises an eight-segment liquid crystal display. Column 3 Lines 60-61, If the message is less than 8 characters the entire message will be displayed. Tsunoda)**

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John R. Schnurr whose telephone number is (571) 270-1458. The examiner can normally be reached on Monday - Friday, 7:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRS

PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER